

Response to Office Action Mailed August 12, 2002

A. Claims In The Case

Claims 1-36, 39, 173, and 174 have been rejected. Claim 1 has been amended. Claims 40-68 and 175 have been cancelled. Claims 1-36, 39, 173, and 174 are pending.

B. The Claims Are Not Anticipated By Stabile Pursuant To 35 U.S.C. §102 (e)

Claims 1-19, 39, and 173 were rejected under 35 USC §102(e) as being anticipated by U.S. Patent No. 5,872,623 to Stabile et al. ("Stabile"). Claim 1 has been amended. Applicant respectfully disagrees that the claims are anticipated by Stabile.

The standard for "anticipation" is one of fairly strict identity. To anticipate a claim of a patent, a single prior source must contain all the claimed essential elements. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 231 U.S.P.Q. 81, 91 (Fed. Cir. 1986); *In re Donahue*, 766 F.2d 531, 226 U.S.P.Q. 619, 621 (Fed. Cir. 1985).

Amended claim 1 includes a combination of features, including but not limited to the feature of:

"a sensor array, the sensor array comprising: a supporting member comprising a plurality of cavities formed within the supporting member; and a cover layer; a plurality of particles, the particles being positioned within the cavities, wherein the particles produce a signal when the particles interact with the analyte during use, and wherein the cover layer is positioned above the supporting member at a distance such that the cover layer inhibits dislodgement of the particle from the cavity during use."

Support for the amendment at least can be found in the Applicant's Specification page 18, lines 7-11, which states, in part:

The transparent cover plate, in some embodiments, is positioned a fixed distance above the silicon wafer, as depicted in FIG. 2, to keep the particle in place, while allowing the entrance of fluids into the cavities. The transparent cover plate, in some embodiments, is positioned at a distance above the substrate which is substantially less than a width of the particle.

The Examiner rejected claims 1-19, 39, and 173 as being anticipated by Stabile. The Examiner stated:

The reference discloses a detection device comprising a light source that is reflected onto a clear lens above the sensor array. The light source is a light emitting diode (Col. 3, lines 32-33). The device also comprises a planar substrate support and sensor array. The sensor array comprises top and bottom layers, as well as cavities in which a plurality of particles may be positioned. These particles are able to produce a signal or swell when the particles interact with analyte...A detector, either a charge coupled device, photodiode array, or photodetector, is positioned beneath the apparatus for detecting the signal produced by the interaction of the analyte with articles(s) during use. The reference also discloses a liquid distribution system that is coupled to the device and delivers fluid from different reservoirs to the reaction cells or detection sites (Col 13).

Stabile teaches "[t]he top layer is formed of a material that is opaque to the relevant wavelengths, while the second is translucent to light of the wavelength to be detected. The top layer is chemically etched or formed by laser ablation to define open areas that will define wells that serve as light transmitting apertures. After such structures have been formed, this top masking layer is bonded to the lower translucent layer." (Column 12, lines 51-58) Stabile does not appear to teach or suggest a cover layer positioned above the supporting member at a distance such that the cover layer inhibits dislodgement of the particle from the cavity during use.

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Amended claim 1 includes a combination of features, including but not limited to the feature of "the cover layer is positioned above the supporting member at a distance such that the

cover layer inhibits dislodgement of the particle from the cavity during use.” Stabile does not appear teach or suggest at least this feature in combination with the other features of claim 1.

Therefore, independent claim 1 and thus dependent claims 2-19, 39, and 173 are not anticipated by Stabile. Applicant respectfully requests removal of the rejections to claims 1-19, 39, and 173.

D. The Claim Is Not Obvious Over Stabile In View Of Ito Pursuant to 35 U.S.C. §103(a)

Claim 20 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile et al. (“Stabile”) in view of U.S. Patent No. 5,583,054 to Ito et al. (“Ito”). Applicant respectfully submits that the claim is not obvious over Stabile in view of Ito.

Applicant submits that for at least the reasons set forth above, the features of claim 20, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 20 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 20.

E. The Claim Is Not Obvious Over Stabile In View Of Colin Pursuant to 35 U.S.C. §103(a)

Claim 21 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,773,307 to Colin et al. (“Colin”). Applicant respectfully submits that the claim is not obvious over Stabile in view of Colin.

Applicant submits that for at least the reasons set forth above, the features of claim 21, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 21 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 21.

F. The Claim Is Not Obvious Over Stabile In View Of Clark Pursuant to 35 U.S.C. §103(a)

Claim 22 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,690,807 to Clark Jr. et al. (“Clark Jr.”). Applicant respectfully submits that the claim is not obvious over Stabile in view of Clark Jr.

Applicant submits that for at least the reasons set forth above, the features of claim 22, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 22 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 22.

G. The Claims Are Not Obvious Over Stabile In View Of McGarry Pursuant to 35 U.S.C. §103(a)

Claims 23, 24, and 174 were rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”). Applicant respectfully submits that the claims are not obvious over Stabile in view of McGarry.

Applicant submits that for at least the reasons set forth above, the features of claims 23, 24, and 174, in combination with the features of amended claim 1 are not obvious. Applicant submits claims 23, 24, 174 are separately patentable over the cited art and Applicant respectfully requests removal of the rejections of claims 23, 24, and 174.

H. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of Bretscher Pursuant to 35 U.S.C. §103(a)

Claim 25 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”) and in further view of U.S. Patent No. 5, 714,122 to Bretscher et al. (“Bretscher”). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of Bretscher.

Applicant submits that for at least the reasons set forth above, the features of claim 25, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 25 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 25.

I. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of Arnold Pursuant to 35 U.S.C. §103(a)

Claim 26 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”) and in

further view of U.S. Patent No. 5, 616,790 to Arnold et al. (“Arnold”). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of Arnold.

Applicant submits that for at least the reasons set forth above, the features of claim 26, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 26 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 26.

J. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of Russell Pursuant to 35 U.S.C. §103(a)

Claim 27 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”) and in further view of U.S. Patent No. 5, 137,833 to Russell et al. (“Russell”). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of Russell.

Applicant submits that for at least the reasons set forth above, the features of claim 27, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 27 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 27.

K. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of Schutz Pursuant to 35 U.S.C. §103(a)

Claim 28 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”) and in further view of “Direct Observation of Ligand Colocalization on Individual Receptor Molecules” *Biophysical Journal* **1998**, 74, 2223-2226, by Schutz et al. (“Schutz”). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of Schutz.

Applicant submits that for at least the reasons set forth above, the features of claim 28, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 28 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 28.

L. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of Issachar Pursuant to 35 U.S.C. §103(a)

Claim 29 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”) and in further view of U.S. Patent No. 5,156,972 to Issachar et al. (“Issachar”). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of Issachar.

Applicant submits that for at least the reasons set forth above, the features of claim 29, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 29

is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 29.

M. The Claims Are Not Obvious Over Stabile In View Of McGarry And In Further View of Fish Pursuant to 35 U.S.C. §103(a)

Claims 30, 35, and 36 were rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”) and in further view of U.S. Patent No. 5,126,276 to Fish et al. (“Fish”). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of Fish.

Applicant submits that for at least the reasons set forth above, the features of claims 30, 35, and 36, in combination with the features of amended claim 1 are not obvious. Applicant submits claims 30, 35, and 36 are separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claims 30, 35, and 36.

N. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of Lauritzen Pursuant to 35 U.S.C. §103(a)

Claim 31 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”) and in further view of “Peptide dot immunoassay and immunoblotting: Electroblotting from aluminum thin-layer chromatography plates and isoelectric focusing gels to activated nitrocellulose” *Electrophoresis* **1993**, 14, 852-859, by Lauritzen et al. (“Lauritzen”). Applicant respectfully

submits that the claim is not obvious over Stabile in view of McGarry and in further view of Bretscher.

Applicant submits that for at least the reasons set forth above, the features of claim 31, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 31 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 31.

O. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of Khanna Pursuant to 35 U.S.C. §103(a)

Claim 32 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile (“Stabile”) et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. (“McGarry”) and in further view of U.S. Patent No. 5, 223,393 to Khanna et al. (“Khanna”). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of Khanna.

Applicant submits that for at least the reasons set forth above, the features of claim 32, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 32 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 32.

P. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of O'Daly Pursuant to 35 U.S.C. §103(a)

Claim 33 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile ("Stabile") et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. ("McGarry") and in further view of U.S. Patent No. 5,391,272 to O'Daly et al. ("O'Daly"). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of O'Daly.

Applicant submits that for at least the reasons set forth above, the features of claim 33, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 33 is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 33.

Q. The Claim Is Not Obvious Over Stabile In View Of McGarry And In Further View of Cho Pursuant to 35 U.S.C. §103(a)

Claim 34 was rejected as being unpatentable over U.S. Patent No. 5,872,623 to Stabile ("Stabile") et al. in view of U.S. Patent No. 5,248,742 to McGarry et al. ("McGarry") and in further view of "An Unnatural Biopolymer" *Science* **1993**, 261, 1303-1305, by Cho et al. ("Cho"). Applicant respectfully submits that the claim is not obvious over Stabile in view of McGarry and in further view of Bretscher.

Applicant submits that for at least the reasons set forth above, the features of claim 34, in combination with the features of amended claim 1 are not obvious. Applicant submits claim 34

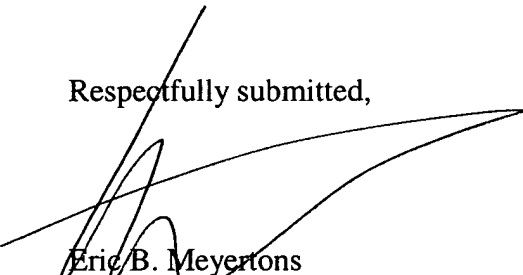
is separately patentable over the cited art and Applicant respectfully requests removal of the rejection of claim 34.

R. Summary

Based on the above, Applicant submits that all claims are not in condition for allowance. Favorable reconsideration is respectfully requested.

Applicant believes that no fees are due at this time. If any extension of time is required, Applicant hereby requests the appropriate extension of time. If any fees are inadvertently omitted or if any additional fees are required or have been overpaid, please appropriately charge or credit those fees to Conley, Rose & Tayon, P.C. Deposit Account Number 50-1505/5119-00501/EBM.

Respectfully submitted,



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Marked Copy of the Claim

1. (Amended) A system for detecting an analyte in a fluid comprising:

a light source;

a sensor array, the sensor array comprising:

a supporting member comprising a plurality of cavities formed within the supporting member; and

a cover layer;

a plurality of particles, the particles being positioned within the cavities, wherein the particles produce a signal when the particles interact with the analyte during use, and wherein the cover layer is positioned above the supporting member at a distance such that the cover layer inhibits dislodgement of the particle from the cavity during use;

a detector, wherein the detector detects the signal produced by the interaction of the analyte with the particle during use;

wherein the light source and detector are positioned such that light passes from the light source, to the particles, and onto the detector during use, and wherein the light source provides an area of light on an upper surface of the sensor array during use, wherein the area of light encompasses two or more cavities.

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